

CLAIMS

1. A power consumption monitoring apparatus, comprising:
 - at least one electrical measurement device for generating a signal indicative of the electrical power passing through an electrical power line at the location of the measurement device;
 - at least one data controller adapted to receive the signal from the measurement device and to convert the signal into a data transmission stream conveying at least one power consumption statistic, the data controller including a transmitter for transmitting the data transmission stream across a communications medium; and
 - a display controller including a receiver for receiving the stream from the communications medium, the display controller adapted to convert the stream into one or more data display transmission signals for reception by a variety of display devices to display power consumption statistics.
2. The apparatus of claim 1, wherein the electrical measurement device is adapted to replace a main fuse in a mains network.
3. The apparatus of claim 1, wherein the electrical measurement device is adapted for either, insertion into, or attachment to, a mains fuse box.
4. The apparatus of claim 1, wherein the electrical measurement device is adapted for insertion into a mains outlet socket.
5. The apparatus of claim 4, wherein the electrical measurement device includes an outlet socket adapted to receive a power consuming device.
6. The apparatus of any preceding claim, wherein the data controller is integrated with the electrical measurement device.

7. The apparatus of claim 1 or claim 6, wherein the electrical measurement device and data controller are adapted to communicate using any one of mains signalling, wireless communication protocols or hard-wired network communications.
8. The apparatus of claim 1 or claim 7, wherein the electrical measurement device includes a transceiver for communicating signals to the data controller.
9. The apparatus of claim 1, wherein the data controller further includes a receiver for receiving signals from the electrical measurement means.
10. The apparatus of any preceding claim, wherein the electrical measurement device includes power interruption means for interrupting electrical power passing through the electrical power line.
11. The power consumption monitoring apparatus of claim 10, wherein the data controller is adapted to send on and off signals to the electrical measurement device to control the passage of electricity through the electrical power line.
12. The apparatus of claim 1 or claim 11, wherein the data controller is adapted to automatically re-start the electrical measurement device if the data controller suffers a power failure.
13. The apparatus of claim 1, wherein the data controller and display controller are adapted to communicate using any one of mains signalling, wireless communication protocols or hard-wired network communications.

14. The apparatus of claim 1, wherein the display controller includes a signal decoder to perform the conversion of the data transmission stream into the one or more data display transmission signals.

15. The apparatus of claim 1, wherein the display controller includes an interface for communicating the data display transmission signals to one or more of a personal computer, a television or a set-top box.

16. The apparatus of claim 15, wherein the interface is a USB standard interface suitable for connection to a USB port on the personal computer.

17. The apparatus of claim 15, wherein the interface is a UHF standard co-axial connector suitable for connection to a UHF input socket on the television.

18. The apparatus of claim 15, wherein the interface is a SCART standard interface suitable for connection to a SCART input socket on the television or set-top box.

19. The apparatus of claim 1, wherein the display controller further includes storage means adapted to record one or more power consumption statistics to form a set of historical power consumption data.

20. The apparatus of claim 19, wherein the display controller is adapted to generate one or more data display transmission signals which include historical power consumption data.

21. The apparatus of claim 19, wherein the display controller includes a processor to calculate power usage statistics based on historical power consumption data.

22. The apparatus of claim 1 or claim 6, wherein the display controller is remotely located to the data controller.

23. A method of monitoring power consumption, comprising the steps of:

generating in at least one electrical measurement device, a signal indicative of the electrical power passing through an electrical power line at the location of the electrical measurement device;

receiving the signal from the measurement device at a data controller and converting the signal into a data transmission stream conveying at least one power consumption statistic;

transmitting the data transmission stream across a communications medium; and

receiving the stream from the communications medium by a receiver in a display controller and converting the stream into one or more data display transmission signals for reception by a variety of display devices to display power consumption statistics.

24. The method of claim 23, further comprising the step of communicating the signal from the electrical measurement device to the data controller using one of mains signalling, wireless communication protocols or hard-wired network communications.

25. The method of claim 23, further comprising the step of communicating the data transmission stream from the data controller to the display controller using one of mains signalling, wireless communication protocols or hard-wired network communications.

26. The method of claim 23, further comprising the step of supplying electrical power through an outlet socket of the electrical measurement device for an attached power consuming device.

27. The method of claim 23, further comprising the step of recording the power consumption statistics in a storage means to form a set of historical power consumption data.

28. The method of claim 23 or claim 27, further comprising the step of generating one or more data display transmission signals which include historical power consumption data.

29. The method of claim 23 or claim 27, further comprising the step of processing the historical power consumption data to calculate power usage statistics.

30. The method of claim 23, wherein the data controller automatically sends a re-start signal to the electrical measurement device in response to the data controller suffering a power failure.

31. The method of claim 23, further comprising the step of controlling power interruption means in the electrical measurement device for interrupting electrical power passing through the electrical power line.

32. The method of claim 31, wherein the step of controlling includes sending on and off signals to the electrical measurement device from the data controller.